Memorandum

To: Michael Gaw
                Division of Market Regulation

From: Lois Lightfoot
                Office of Economic Analysis

Re: File No. S7-10-04

Subject: Sub-penny Trading Costs

Date: December 8, 2004

cc: Chester Spatt, Jonathan Sokobin, Stewart Mayhew, Chuck Dale

OEA has calculated a dollar cost estimate of prohibiting sub-penny quoting as proposed in Regulation NMS. The estimate is based on an analysis of trade data in Nasdaq, Amex, and NYSE stocks for the four day period June 7-10, 2004. OEA estimates the annualized cost of trading at the penny price, rather than the sub-penny price, to be about $20 million for Nasdaq-listed stocks, $16 millions for Amex-listed stocks, and $12 million for NYSE-listed stocks. This is an estimate of the potential gross cost of the rule and does not reflect the value of anticipated benefits.

In Nasdaq stocks, sub-penny trading has declined over time as ECNs have curtailed the use sub-penny quotes on their systems. While our April 2003 analysis found that 12.9% of trades in Nasdaq stocks occurred in sub-pennies, that fraction has fallen substantially. In the June 2004 sample, we find that 1.5% of trades over $1.00 are reported in a sub-penny increment accounting for 4.7% of share volume. Excluding VWAP trades from the sample lowers sub-penny trade reports to 1.4% of trades and 2.4% of share volume.[1] Trades below $1.00 are excluded from the sample as the proposed rule prohibits sub-penny quoting only in stock above $1.00.

In Amex-listed stocks the majority of sub-penny trading continues to occur in the ETFs. (QQQs were listed on Amex during the study period). Overall, 9.9% of trades in Amex securities were executed in sub-pennies, but the figure falls to less than one percent if ETFs are excluded. Less than 1% of trades in NYSE-listed stocks are reported in sub-pennies, and those trades are reported primarily as third market trades. (Average price trades are reported to the NYSE, but are identified on the file and excluded from this sample).

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[1] The Nastraq trade file identifies VWAP trades. The rationale for excluding VWAP trades is the execution of sub-penny trades is not prohibited by the rules, and VWAP trades are not the result of sub-penny quoting. In addition to VWAP trades, trades with a condition code other than 'regular way' are excluded, such as trades reported after normal trading hours, bunched trades, next day trades, and late trade reports. The dollar cost estimates excludes these trades.

The cost of prohibiting sub-penny trading is calculated as the cost of pricing sub-penny executions at the near side penny, rather than the sub-penny price point. This price difference, multiplied by the executed volume produces a dollar cost per trade. For example, the 'cost' to a sub-penny trade at price $25.248 for 300 shares is as follows. The assumption is without sub-penny quotes this trade will occur at $25.25 – a difference of $0.002 per share. At 300 shares this trades incurs a cost of $0.60 ($.002 x 300 shares). (A sub-penny trade at $25.242 incurs a cost of $0.002 under the assumption it will execute at $25.24). Summed across all sub-penny trades, the average daily cost is $80,973 for Nasdaq stocks, or $ 20,400,235 on an annual basis with a 252 day trading year. Costs for Amex-listed stocks including the ETFs are $16 million on an annual basis or $1.2 million excluding the QQQs. The cost for NYSE-listed stocks is $12 million on an annual basis.

The above cost estimates will be overstated to the extent they include sub-penny trades that do not result from sub-penny quotes (such as price improvement from internalizing dealers which could not be identified in the data). Such sub-penny trading will continue to be permitted under the rule.

Clearly, for every trade that pays a 'worse' price in the absence of better sub-penny quotes, the counter side trade receives an equivalent better price. However, this estimate provides only a 'gross' cost estimate. In addition, the estimate assumes order submission strategies with regard to size and timing are unchanged, even though the price of orders will change.